





# Minh Thang Cao

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## Experience

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| <b>Software Engineer Intern</b>  | <b>Pattern</b>             | <b>May 2022 – Aug 2022</b> |
| <ul style="list-style-type: none"><li>– Developing server endpoints, data modules and <u>AWS Lambda</u> with <u>Node.js</u> + <u>TypeScript</u> integrated with <u>Terraform</u> which helps automate workforce recruitment and management processes (currently manual) by <b>90%</b>.</li><li>– Applying new design to the <u>Flutter</u> mobile app by creating an internal UI library with reusable widgets.</li></ul>  |                            |                            |
| <b>Software Engineer Intern</b>  | <b>Kinaxis</b>             | <b>Sep 2021 – Dec 2021</b> |
| <ul style="list-style-type: none"><li>– Developed an interactive <u>data visualization</u> with <u>D3.js</u> library integrated with <u>TypeScript</u> + <u>HTML</u> environment which enhanced the ability to analyze supply chain allotment data and debug issues, assisted onboard Kinaxis's new developers by providing supply arrangement algorithm's insights.</li></ul>   |                            |                            |
| <b>Software Engineer Intern</b>  | <b>Kinaxis</b>             | <b>May 2021 – Aug 2021</b> |
| <ul style="list-style-type: none"><li>– Investigated and implemented in <u>C++</u> a <u>product cycle detection graph algorithm</u> that combines variances of strongly connected components and cycles enumeration algorithms to enhanced supply planning outputs for over <u>200 global enterprises</u>.</li><li>– Improved the <u>running time</u> of the platform in cycles detection from more than <u>12 hours</u> to <u>1 second</u> on a customer data set, produced high-quality and more detailed cycle data compared to the previous version.</li></ul> |                            |                            |
| <b>Volunteer Front-end Developer</b>   | <b>CU Blueprint</b>        | <b>Sep 2020 – Aug 2021</b> |
| <i>Beneficent CRM</i>   |                            |                            |
| <ul style="list-style-type: none"><li>– Developed a CRM full-stack web application for a non-profit organization that significantly improves the processing time of their services by migrating to software-automatic workflow.</li><li>– Collaborated with developers and designers in an <u>Agile</u> team, building a user-friendly and responsive user interface with reusable components using <u>React</u> + <u>TypeScript</u> and <u>CSS</u> that integrates with <u>Node.js</u> server.</li></ul>  |                            |                            |
| <b>Undergraduate Research</b>  | <b>Carleton University</b> | <b>May 2020 – Aug 2020</b> |
| <i>Closest-pair Doubling</i>    |                            |                            |
| <ul style="list-style-type: none"><li>– Explored a <u>divide-and-conquer algorithm</u> that calculates the closest-pair distance of points on multi-dimensional spaces without knowing coordinates using the <u>doubling dimension</u> definition.</li><li>– Implemented from scratch with <u>C++</u>, <u>analyzed and proved</u> the algorithm's logarithmic <u>running time</u> in practice by analyzing the output data and successfully led the original research project to a conclusion.</li></ul>   |                            |                            |
| <b>Teaching Assistant</b>  | <b>Carleton University</b> | <b>Sep 2020 – Apr 2022</b> |
| <ul style="list-style-type: none"><li>– Participated in engaging tutorial sections to help professors guide more than 2000 students through materials of Computer Science courses, graded and provided detailed feedback for students' assignments and tests.</li><li>– Holding weekly office hours to answer questions and help students improve their understanding of the materials.</li></ul>  |                            |                            |

## Projects

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|---|--|
| <b>Online</b>    | <i>Python, Flask, JavaScript, HTML, CSS, Jinja2, Socket.IO, SQLAlchemy, PostgreSQL</i> |
| <ul style="list-style-type: none"><li>– Built an online <u>real-time</u> Go game using <u>Flask</u> with <u>Jinja2</u> template integrated with <u>Socket.IO</u>.</li><li>– Designed the <u>SQL</u> data models with <u>SQLAlchemy</u> and stored data in a <u>PostgreSQL</u> database.</li></ul> |  |
| <b>Connect 4</b>   | <i>JavaScript, React, HTML, CSS, Node.js, Express.js, Socket.IO, MongoDB</i>           |
| <ul style="list-style-type: none"><li>– Developed a full-stack web game using the <u>MERN stack</u> technologies with <u>React</u> responsive user interface and <u>Node.js</u> RESTful API endpoints that process queries efficiently.</li></ul>   |  |

## Education

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|---|--------------------------------|
| <b>Carleton University</b>                                    | <b>Ottawa, Ontario, Canada</b> |
| <i>Bachelor of Computer Science</i>                           | Sep 2019 – May 2024 (Expected) |
| CGPA: 11.64/12 (A+). On <b>Dean's Honour List</b> since 2019. |                                |

## Skills

- Languages:** Python, JavaScript, TypeScript, C/C++, Java, Kotlin, HTML, SQL
- Technologies:** React, Node.js, React Native, Express.js, Flask, Flutter, CSS, Git, AWS, Linux